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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,418	06/30/2003	Dennis R. McKean	HSJ9-2003-0022US1	1933
23980 7590 05/01/2007 MINTZ, LEVIN, COHN, FERRIS, GLOVSKY AND POPEO, P.C 1400 PAGE MILL ROAD PALO ALTO, CA 94304-1124			EXAMINER GOFF II, JOHN L	
			ART UNIT 1733	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/611,418

Applicant(s)

MCKEAN ET AL.

Examiner

John L. Goff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 1-21, 30 and 31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-29 and 32-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/30/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/23/07 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### *Claim Rejections - 35 USC § 102*

3. Claims 22-27, 29, 32, 33, and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurdi et al. (U.S. Patent 5,932,113).

Kurdi et al. disclose a method for forming a slider assembly comprising arranging a plurality of sliders each having a surface such that the surfaces are coplanar to each other, placing the plurality of sliders on a laminate of a flexible tape and an adhesive such that slider surfaces contact the adhesive, dispensing a silicon-based encapsulant fluid in a manner effective to fill gaps or recesses between the sliders without contacting the coplanar slider surfaces, and subjecting the dispensed encapsulant fluid to conditions effective for the fluid to crosslink and/or polymerize and form a readily debondable solid encapsulant comprising a silicon-based polymer (Column 5, lines 33-67 and Column 6, lines 1-67 and Column 7, lines 1-12).

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Regarding claim 24, as the adhesive taught by Kurdi et al. is described as not effected by the encapsulant fluid the adhesive is considered resistant or impervious to solvation by the encapsulant fluid (Column 5, lines 39-45).

Regarding claims 25-27, Kurdi et al. teach the initial viscosity of the encapsulant fluid is as low as 100 centistokes (Column 7, lines 1-2).

Regarding claim 32, as there is no disclosure in Kurdi et al. that the solid encapsulant substantially outgases under vacuum, and the silicon-based polymer solid encapsulant is consistent and in agreement with the solid encapsulant disclosed and claimed by applicants, the solid encapsulant taught by Kurdi et al. is considered to not substantially outgas under vacuum.

Regarding claim 33, Kurdi et al. teach the silicon-based encapsulant is an acrylate silicon which is polymerized after it is dispensed, i.e. *in situ*, wherein acrylic silicon encapsulants are considered polymerized from organosilicon prepolymers (Column 6, lines 30-60).

Regarding claim 37, Kurdi et al. disclose the solid encapsulants are removed such that the solid encapsulants taught by Kurdi et al. are considered debondable. Kurdi et al. further teach the solid encapsulants are debonded by means of a solvent comprising NMP, i.e. N-methylpyrrolidinone (Column 8, lines 33-35).

### ***Claim Rejections - 35 USC § 103***

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 22-29, 32-34, 36, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurdi et al. in view of Mandell (U.S. Patent 3,335,088) and Wong '275 (U.S. Patent 5,051,275).

Kurdi et al. is described above in full detail. Kurdi et al. do not teach the removable/debondable encapsulant is a silicon-based polymer having phenyl substituents. However, Kurdi et al. are not limited to any particular encapsulant and suggest a wide range of encapsulants may be used including acrylic encapsulants (Column 6, lines 42-60). It is well taken in the art of debondable encapsulants that acrylic and silicone elastomer based encapsulants are functionally equivalent as shown by Mandell (Column 1, lines 9-16 and Column 6, lines 6-18). Absent any unexpected results, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the debondable encapsulant in Kurdi et al. a silicon polymer based encapsulant which was well taken as functionally equivalent to acrylic polymer encapsulants as shown by Mandell. As to the silicone-based polymer having phenyl substituents, Wong '275 disclose a silicone elastomer encapsulant comprising polymethylphenylsiloxan (i.e. an encapsulant considered as comprising organosilicon prepolymers having phenyl substituents) having good durability, temperature, and humidity characteristics wherein the silicone-based polymer encapsulant is applied as a fluid including a solvent and during subsequent crosslinking and/or polymerization *in situ* at 120 °C the solvent is removed (Column 2, lines 3-24 and 58-69 and Column 3, lines 1-16 and Column 4, lines 3-23).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the silicone-based polymer encapsulant taught by Kurdi et al. as modified by Mandell the silicone-based polymer encapsulant fluid including a solvent taught by Wong '275 which has good durability, temperature, and humidity characteristics.

Regarding claim 24, as the adhesive taught by Kurdi et al. is described as not effected by the encapsulant fluid it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the adhesive in Kurdi et al. as modified by Mandell and Wong '275 one that is resistant or impervious to solvation by the encapsulant fluid.

Regarding claims 25-27, as Kurdi et al. teach the initial viscosity of the encapsulant fluid is as low as 100 centistokes it would have been obvious to one of ordinary skill in the art at the time the invention was made to formulate the encapsulant in Kurdi et al. as modified by Mandell and Wong '275 to have a viscosity of 100 centistokes.

Regarding claim 32, there is no disclosure in Kurdi et al. as modified by Mandell and Wong '275 that the solid encapsulant substantially outgases under vacuum, and the silicon-based polymer solid encapsulant is consistent and in agreement with the solid encapsulant disclosed and claimed by applicants, such that the solid encapsulant taught by Kurdi et al. as modified by Mandell and Wong '275 is considered to not substantially outgas under vacuum.

Regarding claim 37, Kurdi et al. disclose the solid encapsulants are debonded by means of a solvent comprising NMP, i.e. N-methylpyrrolidinone, such that it would have been obvious to one of ordinary skill in the art at the time the invention was made to debond the solid encapsulants taught by Kurdi et al. as modified by Mandell and Wong '275 using the solvent.

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In the event the acrylic silicon encapsulant fluid taught by Kurdi et al. is shown to not necessarily be a silicon-based polymer the above rejection applies to claims 22-27, 29, 32, 33, and 37.

6. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurdi et al., Mandell, and Wong '275 as applied to claims 22-29, 32-34, 36, and 37 above, and further in view of Joffre et al. (U.S. Patent 5,840,800) and Wong '562 (U.S. Patent 4,564,562).

Kurdi et al., Mandell, and Wong '275 as applied above teach all of the limitations in claim 35 except for a specific teaching of using a polymeric catalyst containing pendant amino-functionalities with the encapsulant, it being noted Wong '275 is not limited to any particular catalyst and suggests a platinum catalyst (Column 2, lines 58-68). It is well taken in the art of silicone-based encapsulants that metallic and amino based encapsulants are functionally equivalent as shown by Joffre et al. (Column 21, lines 16-21). Absent any unexpected results, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the catalyst in Kurdi et al. as modified by Mandell and Wong '275 an amino based catalyst which was well taken as functionally equivalent to metallic catalysts as shown by Joffre et al. As to the amino based catalyst having pendant amino-functionalities, Wong '562 disclose a silicone elastomer encapsulant including a dialkylaminoalkylsiloxane catalyst, which is considered a polymeric catalyst containing pendant amino-functionalities, which is used as the catalyst because it reduces the curing temperature of the encapsulant (Column 1, lines 34-41 and Column 2, lines 28-31). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the amino based catalyst taught by Kurdi et al. as modified by

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Mandell, Wong '275, and Joffre et al. the polymeric catalyst containing pendant amino-functionalities taught by Wong '562 which reduces the curing temperature of the encapsulant.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 22-29 and 32-37 have been considered but are moot in view of the new ground(s) of rejection.

In view of applicants amendment and arguments the previous 35 USC 103 rejection over Kurdi et al. in view of Hussinger (U.S. Patent 5,516,430) is withdrawn.

Applicants argue, "The Examiner is in essence saying that the single word "silicones" at the ends of a long list in Kurdi (col. 6, line 60) - a list which discloses a number of broad classes of polymers for use as possible encapsulants - teaches the specific class of debondable silicon-based polymers to which claim 22 is limited."

Claim 22 requires a "debondable solid encapsulant comprising a silicon-based polymer". Kurdi et al. teach the solid encapsulant is removed after curing including removal by using the same solvent as claimed by applicants such that Kurdi et al. is considered to teach a debondable solid encapsulant (Column 6, lines 42-44 and Column 8, lines 33-35). Kurdi et al. teach the solid encapsulant may comprise an acrylate silicone which is considered a silicon-based polymer (Column 6, lines 58-60). Kurdi et al. anticipates the claim.

Applicants further argue, "In particular, the Examiner with respect to claim 33 states that in Kurdi polymerization occurs during the curing of the encapsulant. However, Kurdi does not say that this happens with silicones, since Kurdi mentions silicone encapsulants exactly once, in a long list."



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Kurdi et al. teach the encapsulants which include the acrylic silicone encapsulant are dispensed and then cured wherein curing is considered polymerization and the polymerization occurs after dispensing, i.e. *in situ* (Column 6, lines 30-34 and 42-43).

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571) 272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John L. Goff  
Patent Examiner  
Art Unit 1733